MID-GEORGIA SOARING ASSOCIATION

Blind Cone Awareness

Threat awareness is a key tool in assisting pilots' risk management. A recent example from Safety Day involved avoiding takeoff distractions through awareness of the potential threat and proactive steps to minimize risk.

Another threat that we're aware of is midair collision potential. We know that a vigilant sector scan is one tool in the toolbox that we must exercise constantly in flight. But a sector scan alone is not enough as it obviously doesn't include areas hidden from view. Fortunately there is another important tool at our disposal in terms of specific midair threat awareness, and that is to develop a deep respect for and respond to the threat of aircraft blind cones. Let's particularly focus on glider blind cones while thermaling. Recent events at Monroe indicate to me that blind cone hazards need more emphasis.

Aircraft blind cones are analogous to pilot distractions in that experienced pilots can become victims just as easily as an inexperienced pilot. But what will help pilots regardless of experience level is prior awareness of the threat, hence they are more able to defend against it. And so it is with blind cones awareness.

But first, lets map these blind cones as there are two per glider. The forward cone is below the nose of the glider from about 11 to 1 o'clock low, but the top of the cone is about 12 o'clock level depending on the glider. Personally, I feel my 12 o'clock visual scan is much poorer than 11 or 1 o'clock due to glareshield position. Save that thought for later.

The second blind cone is at our tail from at a minimum roughly 5 to 7 o'clock and in reality, more likely as we all get older, 4 to 8 o'clock. It's a larger cone than our forward cone, because of the difficulty in twisting torso and neck in that direction.

Next, let's consider what these two blind cone threats represent. The forward cone can be directly controlled by us in general. More specifically by maneuvering the glider hence forward cone with very slight S-turns to better view areas of concern under the nose. Two examples include approaching a promising cu or any gaggle. An attractive cu is a glider magnet. You must find them! Our "bicycle chain" analogy for joining from outside the gaggle's turn circle (bicycle sprocket) helps keep that blind cone clear of aircraft somewhat. As a general rule be extremely cautious joining a gaggle from a slightly high position by using the improved visibility found to the right of 1 o'clock low or to the left of 11 o'clock low.

The rear cone can be controlled indirectly by a number of means appropriate for the situation including calling "no joy" when a glider stays in your rear cone, tightening up a shallow bank turn if safe to do so to rotate your rear blind cone, or as a final recourse leave by clearing first then slowly relaxing bank and call departing in a certain direction.

A worse case scenario is two aircraft positioned so that neither sees the other as they are in each other's blind cones. The 12 o'clock low traffic that can't see the 6 o'clock high glider behind it. A double blind cone. Extremely hazardous! We had this scenario recently.

2025-09-23

So armed with awareness, what are just a few tools in the toolbox to help manage the risk? First, be aware that nearby gliders can be hidden in your two blind cones. Actively but predictably maneuver to rotate blind cones to scan areas of interest. Use the radio to call loss of visual contact regardless of clock position from your aircraft. Finally, Flarm can assist with maintaining situational awareness on other nearby Flarm traffic.

This is just a brief overview of a serious subject. I'm sure others will have points to add, particularly in crowded contest thermals. My goal is to raise awareness of the threat.

2025-09-23